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COMPLIANCE IS MANDATORY

John C. Stennis Space Center
Ionizing Radiation Program

Approval/Concurrence

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Michael A Pannell, PhD, CIH
NASA Occupational Health Officer

Date

Document History Log

Revision	Change Date	Originator/Phone	Description
Basic	01/24/2014	John Lindsay x82557	Initial release
Rev. 1	2/6/2017	Katrina Wright x3263	Administrative changes throughout document. Updated references, forms, and acronyms. Document restructured to make requirements more applicable to Stennis operations, and replaced FOSC references with SOC references.
Rev. 2	07/20/2019	Sam Engelhard x1234	Change frequency of periodic program review (4.2.c). Minor edits.

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1.0 PURPOSE

This Work Instruction sets forth requirements for the John C. Stennis Space Center (SSC) Ionizing Radiation Program. The program is designed to protect the workforce, the public, and the environment from hazardous exposures to ionizing radiation produced by radioactive sources and radiation-generating equipment (RGE). Personnel exposures shall be kept as low as reasonably achievable (ALARA). The program's objectives shall be achieved through the hierarchy of engineering controls, administrative controls, and personal protective equipment (PPE). This includes the use of strict management controls, safe operating procedures, appropriate equipment, a comprehensive maintenance and surveillance program, adequate shielding, and limiting personnel exposure time.

The SSC Ionizing Radiation Program functions through the National Aeronautics and Space Administration (NASA) Health Physics Program Manager (HPPM) and the Stennis Operating Contract (SOC) Health Physicist. Radioactive material (RAM) and RGE shall be under the direct control of an Area Radiation Safety Officer (ARSO). All uses of RAMs and/or RGE shall be in strict accordance with the appropriate licenses, permits, and procedures.

This Work Instruction describes the policies, procedures, and radiation protection requirements for the receipt, use, storage, and/or transfer of RAMs or equipment using such materials. The scope of RAM includes the following: radioactive sources/materials and RGE covered by the U.S. Nuclear Regulatory Commission (NRC) licenses (general, specific, etc.); radioactive sources/materials and RGE regulated by the State of Mississippi; and radioactive waste.

2.0 APPLICABILITY

This Work Instruction is directly applicable to all NASA/SSC organizations including civil service and support contractors and is applicable to other NASA tenants of SSC.

3.0 REFERENCES AND FORMS

a. 49 CFR, Part 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans*

b. ANSI N43.2-2001, *Radiation Safety for X-Ray Diffraction and Fluorescence Analyses Equipment*

c. ANSI N43.3-2008, *General Radiation Safety – Installation Using Non-Medical X-Ray and Sealed Gamma Ray Sources, Energies up to 10 MeV*

d. NPR 1800.1*, NASA Occupational Health Program Procedures, Chapter 4*

e. NRC Regulatory Guide 8.29, *Instruction Concerning Risks from Occupational Radiation Exposure*

f. NRC Regulatory Guide 8.13, *Instruction Concerning Prenatal Radiation Exposure*

g. NRC Regulatory Guide 1556, Volume 7, *Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Academic, Research, and Development, and other Licenses of Limited Scope Including Gas Chromatographs and X-Ray Fluorescence Analyzers*

h. Regulations for the Control of Radiation in Mississippi, Title 15, Part21, Subpart 78, Section 1000, *Notices, Instructions, and Reports to Workers; Inspections*

i. SCWI-1800-0008, *Reproductive and Developmental Health Protection Program*

j. U.S. FDA 21 CFR, Part 1000.55, *Recommendation for Quality Assurance Programs in Diagnostic Radiology Facilities*

k. U.S. FDA 21 CFR, Part 1020.30, *Diagnostic X-Ray Systems and Their Major Components*

l. U.S. FDA 21 CFR, Part 1020.31, *Performance Standards for Ionizing Radiation Emitting Products*

m. U.S. FDA 21 CFR, Part 1020.40, *Cabinet X-Ray Systems*

n. U.S. NRC 10 CFR, Part 19, *Notices, Instructions and Reports to Workers: Inspection and Investigations*

o. U.S. NRC 10 CFR, Part 20, *Standards for Protection Against Radiation*

p. U.S. NRC 10 CFR, Part 20.1906, *Procedures for Receiving and Opening Packages*

q. U.S. NRC 10 CFR, Part 71.5, *Transportation of Licensed Material*

r. U.S. NRC 10 CFR, Part 1902, *Posting Requirements*

4.0 RESPONSIBILITIES

4.1 NASA Health Physics Program Manager (HPPM):

The NASA HPPM is responsible for:

a. Providing oversight of the SOC Health Physicist;

b. The overall responsibility for this Work Instruction;

c. Approving/disapproving Radiation Source Purchase Requests, SSC Form 889; and,

d. Approving/disapproving Radiation Source Use Authorizations, SSC Form 918.

The NASA HPPM has Stop Work Authority over all Health Physics activities at SSC.

4.2 SOC Health Physicist (HP)

The SOC HP is responsible for administering this Work Instruction in accordance with applicable directives and regulations.

The SOC Health Physicist (HP) shall:

a. Complete annual audits to determine the effectiveness of the Health Physics Program for RAMs and RGE;

b. Provide oversight for ARSOs;

c. Periodically (at least annually in addition to the annual audit) assesses the activities of SSC Contractor organizations;

d. Review each contractor's training material;

e. Provide a copy of all licenses/permits and user qualifications to the HPPM;

f. Recommend approval/disapproval of Radiation Source Purchase Requests, SSC Form 889;

g. Recommend approval/disapproval of Source Use Authorizations, SSC Form 918;

h. Provide a list of RAM and radiation producing machines and devices to the SSC Security Manager and the SSC Fire Chief at least annually.

The SOC HP has Stop Work Authority over all Health Physics activities at SSC.

4.3 Area Radiation Safety Officer (ARSO)

Each ARSO shall oversee ionizing radiation and RGE, approve RAM usage, ensure activities involving RAMs are conducted in accordance with applicable requirements of

the NRC, the Occupational Safety Health Administration (OSHA), the Department of Transportation (DOT), International Air Transport Association (IATA), the state of Mississippi, and NASA, and take prompt corrective measures to appropriately manage and/or control hazards.

Each ARSO is responsible for the implementation of this Work Instruction in accordance with their licenses, permits, and procedures.

The ARSO shall:

a. Provide a current copy of licenses/permits and user qualifications to the SOC HP;

b. Update and provide a copy of source inventories to the SOC HP quarterly;

c. Immediately report any regulatory inspection activity and any significant changes to licenses, permits, RAM inventories, or programs to the SOC HP;

d. Provide a copy of current training materials to the SOC HP;

e. Provide special instructions to female employees on the potential health risks of prenatal radiation exposure;

f. Provide to the SOC HP a copy of the letter certifying the name of the designated RAMs shipper;

g. Provide information to develop, maintain, and update Source Use Authorization Forms, SSC Form 918, for each radiation source and/or RGE; and,

h. Prior to initiating purchases of RAM or RGE, the ARSO shall submit a Radiation Source Purchase Request (SSC Form 889) to the SOC HP and HPPM for approval/disapproval.

4.4 SSC Medical Clinic

SSC Occupational Medicine Clinic personnel are responsible for providing medical surveillance and post-exposure evaluation, as well as follow-up actions, in accordance with NPR 1800.1 and this Work Instruction. Records from such examinations and/or evaluations are to be retained for at least thirty (30) years. Results of the examinations are to be discussed with employees per NASA Procedural Requirement (NPR) and regulatory requirements.

4.5 Employees

Each employee/worker is responsible for satisfying training and other requirements in addition to working in a safe manner in accordance with this Work Instruction.

4.6 Users of Generally Licensed Devices

Each user of a generally licensed device (e.g. smoke detectors) is responsible for following the manufacturer's conditions established for the general license and for following applicable procedures for the device.

5.0 RADIOACTIVE MATERIALS (RAM)

5.1 General Requirements

Each license or permit is under the direct control of that license's or permit's ARSO. All uses of RAMs shall be in strict accordance with the appropriate license or permit and this Work Instruction.

The following criteria shall be met for all operations involving RAMs:

a. All procurement, use, storage, transfer, and disposal of RAMs shall be pre-approved by the SOC HP and the HPPM;

b. RAMs shall be shipped in accordance with requirements of the DOT as specified by 49 CFR, Part 172, Subpart H; and the NRC as specified by 10 CFR, Part 71.5, and 10 CFR, Part 20.1906;

c. Control of radioactive contamination shall be achieved by using engineering controls, administrative controls, and worker performance to contain contamination at the source, reducing existing areas of contamination, and promptly decontaminating areas that become contaminated. A surface shall be considered contaminated if either the removable or total radioactivity exceeds NRC Regulatory Guide 1.86 levels. Contaminated surfaces shall be controlled in a manner commensurate with the physical and chemical characteristics of the contaminant, the radionuclides present, and the fixed and removable contamination levels. Contamination levels caused by ongoing work shall be monitored and maintained ALARA. Additional contamination limits are provided in Appendix Q of NUREG 1556, Volume 7;

d. The dose limits in 10 CFR, Part 20, shall not be exceeded;

e. Operations must be conducted in a manner to maintain exposures ALARA;

f. Radiation levels in unrestricted areas shall be controlled and demonstrate that no person in an unrestricted area can receive a dose equivalent of 2 millirem (mRem) in any one hour or 100 mRem in one (1) year;

g. Activities involving RAMs shall be conducted in accordance with applicable NRC or NRC Agreement State-issued licenses for RAMs. Installations using sealed gamma-ray sources shall comply with ANSI N43.3-2008;

h. Radiation protection to the embryo or fetus of a pregnant female worker shall be provided in a manner that does not discriminate against the rights of the declared pregnant radiological worker; and,

i. Prior to ceasing operations covered by this Work Instruction, the user organization shall notify the SOC HP and the HPPM to coordinate final clearance of the facilities.

5.2 Contamination Control

Improper handling of non-sealed radioactive sources or the loss of integrity of a sealed source could result in the spread of RAMs to nearby personnel, equipment, and the environment. Any loss of control of RAM resulting in its spread outside the posted, controlled area, or any personnel contamination shall be immediately reported to the SOC HP. These surveys shall be documented and available upon request.

5.3 Radiological Surveys of Sources, Equipment, and Facilities

Licensees shall periodically conduct radiological surveys to verify if RAMs and their emitted radiation are under control. The frequency of performing such surveys may be prescribed by DOT, State of Mississippi, or NRC regulations, or conditions specified for a generally-licensed device containing a nuclear source.

Personnel trained to evaluate and document the magnitude and extent of radiation emissions and potential radiological hazards and to verify the efficacy of controls and procedures shall periodically perform surveillance and monitoring of approved facilities, equipment, and operations in accordance with the following specifications:

a. Instrumentation that is used to perform radiation surveys shall be capable of accurately measuring the types of radiation and expected dose levels;

b. Instruments and equipment used for quantitative radiation measurements shall be calibrated for the radiation measured at intervals not to exceed twelve (12) months or per the manufacturer's recommendation;

c. When any component affecting the radiation safety of a system is serviced or replaced, a qualified expert shall perform a survey of the installation to ensure continuity of adequate personnel radiation safety; and,

d. Surveillance and monitoring results shall be evaluated and investigations shall be initiated to resolve unexpected results.

5.4 Material Receipt and Accountability

Prior to purchasing or receiving any RAM or devices containing RAMs, the ARSO shall submit a Radiation Source Purchase Request (SSC Form 889) to the SOC HP for approval or disapproval.

Inventories of licensed, generally-licensed, and unlicensed RAM shall be conducted every three (3) months. The ARSO and other health physics staff may be involved in the inventory process. Upon completion of the inventory, the ARSO shall send a copy of the updated inventory to the SOC HP, and place the document on file.

The ARSO shall promptly notify the SOC HP of any changes in the inventory (additions, deletions, changes in location, etc.). Internal transfers of radioactive sources and equipment must be coordinated by the ARSO, and reported to the SOC HP.

5.5 Authorization of RAM Users

Employees must satisfy license or safety permit conditions for using a particular radioactive source or device containing RAM. Such requirements and qualifications related to radiation protection issues will be established by the ARSO. In addition, a Source Use Authorization Form (SSC-918) must be approved by the HPPM before use of RAM.

5.6 Safe Use of Radionuclides and Emergency Procedures

Operating procedures, including appropriate emergency procedures, must be approved by the ARSO and a copy provided to the SOC HP.

5.7 Postings, Notifications, and Reports

5.7.1 The following documents are required to be posted in areas where licensed RAMs are used or stored:

a. Current Mississippi Department of Health Agency Form RH-5, Notice to Employees; and/or NRC Form NRC-3, Notice to Workers, as applicable.

b. Mississippi Department of Health Regulations, Title 15, Part 21, Subpart 78 (or 10 CFR19, 20, 21, Section 206 of the Energy Reorganization Act); license documents and procedures, any notices of violation, and responses (in lieu of posting these documents a notice can be posted which identifies where said documents can be examined).

5.7.2 The ARSO must submit reports in accordance with Mississippi Department of Health Regulations, or to the NRC, as applicable, for:

a. Theft or loss of material;

b. Notification of incidents such as high exposures or releases of material; and/or,

c. Reports of exposures, radiation levels, and concentrations of RAM exceeding limits.

A copy of the report shall be provided to the SOC HP.

5.8 Area Postings/Controls and Container Labels

Signage shall meet the requirements of 10 CFR 20.1902 and applicable requirements of the Mississippi State Department of Health.

Restricted, RAM, radiation, high radiation, very high radiation, and contamination areas shall be marked clearly with signs as designated by the ARSO. The signage shall indicate any special requirements pertaining to the particular area.
The ARSO shall assure that routine surveys of restricted areas, including radiation and contamination surveys, are conducted in accordance with licenses, permits, and operating procedures. The surveys shall be made available upon request.

Containers of licensed materials shall bear a durable, clearly visible label bearing the radiation symbol and an appropriate warning statement. The label shall also include sufficient information regarding the contents so that individuals handling or using the containers, or working in the vicinity of the containers, can take appropriate action to avoid or minimize exposure.

5.9 Radioactive Waste Management

Radioactive waste generated at SSC must be appropriately stored prior to disposal; shielding, posting/labeling, and security must be considered. The ARSO shall approve all radioactive waste control procedures, and provide copies to the SOC HP. The ARSO shall ensure license conditions and regulations (State of Mississippi, NRC, DOT, EPA) are satisfied.

5.10 Transportation of Radioactive Materials (RAMs) and Waste

All shipments of RAMs and radioactive wastes shall be coordinated by the ARSO.

RAMs and waste shall be shipped in accordance with requirements of the DOT as specified by 49 CFR Part 172, Subpart H; and the NRC as specified by 10 CFR 71.5 and 10 CFR 20.1906.

Packages for shipment must satisfy DOT criteria for the type of shipment planned, and a copy of the shipping container's certification shall remain with the source transfer documentation in the ARSO files.

Prior to shipment, the ARSO must receive a copy of the prospective recipient's materials license to ensure that they are, in fact, authorized to receive the RAM. This license and any supporting documentation must specify that the actual physical location receiving the RAM is authorized to possess the item(s). A copy of this record shall also be maintained in the source transfer documentation of the ARSO's files and made available upon request.

5.11 Contractor (Non-SOC) Radiography and Radioactive Material (RAM) Use

Individuals performing source radiography must have a radiography license issued or recognized by the State of Mississippi in order to perform such work at the SSC. The contractor's work plan and Radiation Safety Program shall be reviewed and approved by the SOC Non-Destructive Evaluation (NDE) ARSO.

Construction engineering companies may use portable density gauges containing radiation sources, usually Cesium-137, Americium-241, or possibly Radium-226. These gauges shall be used to measure the density and composition of surfaces. The latter two radioisotopes may be combined with beryllium metal, resulting in a neutron-emitting source that could be used for measuring moisture density in a material such as soil.

Gauge users are required to have a RAMs license issued or recognized by the NRC or State of Mississippi. The construction contractor is responsible for the safe use and storage of the density gauge. When not in use, the device shall be secured in an area away from heavy equipment to minimize the chance of a construction vehicle accidentally crushing or damaging the shielding, such that the source becomes exposed or dislodged.

5.12 Self-Luminous Exit Signs

Self-luminous exit signs that utilize radioactive tritium gas are prohibited at SSC; their presence shall be reported to the SOC HP for appropriate disposal.

6.0 RADIATION-GENERATING EQUIPMENT (RGE)

RGE is defined as devices which produce ionizing radiation without the use of RAM (e.g., x-ray machine, particle beams) and equipment that produces radiation incidental to its operation (e.g., electron microscope).

Each license or permit is under the direct control of that license or permit's ARSO. All uses of RGE shall be in strict accordance with the appropriate license or permit and this Work Instruction. In addition, a Source Use Authorization Form (SSC-918) must be approved by the HPPM before use of equipment.

All procurement, use, storage, transfer, and disposal of RGE shall be pre-approved by the SOC HP and the HPPM;

The following criteria shall be met for all operations involving RGE:

a. Design and operation of installations using non-medical x-ray shall comply with ANSI N43.3-2008;

b. Design and operation of installations using x-ray diffraction and fluorescence analysis equipment shall comply with the requirements contained in ANSI N43.2-2001;

c. Certified cabinet x-ray systems shall be surveyed at intervals not to exceed twelve (12) months to ensure compliance with 21 CFR 1020.40 performance standards;

d. Diagnostic x-ray systems shall be surveyed at intervals not to exceed twenty-four (24) months to ensure compliance with 21 CFR 1020.30 and 1020.31 performance standards;

e. Diagnostic x-ray systems shall be operated in accordance with a 21 CFR 1000.55 compliant quality assurance program;

f. The dose limits in 10 CFR 20 shall not be exceeded;

g. All operations involving ionizing radiation shall be conducted in a manner to maintain exposures ALARA;

h. Radiation levels in unrestricted areas shall be controlled and demonstrate that no person in an unrestricted area can receive a dose equivalent of 2 mRem in any one hour or 100 mRem in any one (1) year; and,

i. Radiation protection to the embryo or fetus of a pregnant female worker shall be provided in a manner that does not discriminate against the rights of the declared pregnant radiological worker.

Prior to ceasing operation covered by this Work Instruction, the user organization shall notify the SOC HP and the HPPM to coordinate final clearance of the facilities.

7.0 TRAINING REQUIREMENTS

7.1 General Requirements

Training materials must be submitted to the SOC HP annually or whenever the training materials have been revised.

Employees designated as the shipper of RAMs must receive initial and periodic training in accordance with Subpart H of the DOT's 49 CFR 172 for hazardous materials. This training must be function-specific and relevant, and must be repeated at least every three (3) years. For shipments via air transport, IATA documentation shall be completed at least every two (2) years. The shipper of RAM must also be certified (by letter) by their employer to be qualified to hold the position; a copy of the letter shall be provided to the SOC HP.

7.2 User(s) of Radioactive Materials (RAM) or Radiation Generating Equipment (RGE) Not Covered by General License

Personnel using RAMs or RGE not included within a generally-licensed device, or a device specifically exempt from licensing, must receive radiation safety training prior to using the RAM or RGE and annually thereafter. Such individuals are considered to be occupational radiation workers. This group includes individuals working with RAM or RGE. This radiation safety training shall be specified and maintained by the ARSO and reviewed by the SOC HP, and will include as a minimum:

a. Characteristics of ionizing radiation;

b. Units of radiation dose and quantities of radioactivity;

c. Hazards of exposure to radiation (including the information in NRC Regulatory Guide 8.29 and 8.13);

d. Levels of radiation from sources of radiation;

e. Methods of controlling radiation dose (time, distance, and shielding);

f. Contamination control, if dealing with non-sealed radioactive source material; and.

g. Pertinent information in SCWI-1800-0008, *Reproductive and Developmental Health Protection Program*.

NOTE: Radiation protection to the embryo or fetus of a pregnant female worker shall be provided in a manner that does not discriminate against the rights of the declared pregnant radiological worker. Female radiation workers and their supervisors are

required to receive special instructions on the potential health risks of prenatal radiation exposure. Acknowledgement of receipt of this information shall be documented and maintained by the ARSO for at least five (5) years after termination of employment.

7.3 User(s) of RAM or RGE Covered by a General License

Generally-licensed devices are designed to be inherently safe under reasonably expected use scenarios. Users must be trained to operate their specific equipment per any training and qualification criteria identified in the applicable equipment's documents for said activity. Additional radiation safety training may be required by the SOC HP or HPPM.

7.4 Industrial Radiography Using RAM or RGE

All personnel conducting radiography activities at SSC must satisfy training and work experience requirements specified by the State of Mississippi. Records of such training and certification must be available to the SOC HP, the HPPM and the SOC NDE ARSO upon request. American Society for Nondestructive Testing (ASNT) training (or its equivalent) and certification are required for individuals performing radiography at SSC.

8.0 DOSIMETRY AND DOSE LIMITS

All personnel dosimeters that require processing to determine the radiation dose and are used to comply with dose limits shall be processed and evaluated by a dosimeter processor holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology (NIST).

The use of personal dosimetry to estimate external radiation exposure may be required for certain uses of RAM or RGE. The ARSO shall identify when and what type of dosimetry is required based upon the radioisotopes involved and how they are being used. At a minimum, the ARSO shall assign personal dosimetry to individuals working with RAM or RGE who are likely to receive an annual dose in excess of ten (10) percent of their annual allowable limit. The following administrative dose limits apply to individuals at the SSC for all sources (RAM and RGE) of ionizing radiation:

- *Occupational Annual Administrative Dose Limits*
  WHOLE BODY: 0.5 Rem
  LENS OF EYE: 1.5 Rem
  EXTREMITIES, SPECIFIC ORGANS: 5.0 Rem

- *Gestation Period Dose Limit to Unborn Fetus of Declared Pregnant Radiation Worker Members of the Public Annual Dose Limit (due to occupational radiation sources)*
  WHOLE BODY: 0.1 Rem

Should a worker's dose for a recording period appear unexpectedly high (greater than 25%) or, at a minimum, reach the occupational annual administrative dose limits described above (pro-

rated for the recording period), the ARSO shall notify the SOC HP and initiate an investigation to determine the cause of the individual's high dosimetry results.

Typically, radiation dose-related activities at SSC involve working with RAMs or sources in such a manner as to only receive an external dose. Certain activities or working environments may subject workers to internal sources of radiation dose. This internal component shall be taken into account when referencing the occupational annual dose limits. Should the scope of activities at SSC expand to include tasks with internal radiation dose hazards, the ARSO shall notify the SOC HP and revise the dosimetry program accordingly.

Employees who participate in the dosimetry program shall receive a written annual report summarizing their radiation exposure data per the Mississippi State Board of Health Regulations for Control of Radiation**.** Also, participants can, at any time, make such a request to view their exposure data. For workers engaged in licensed activities, this report must contain the following statement (or similar): "This report is furnished to under the provisions of the Mississippi State Board of Health Regulations for Control of Radiation, Section 1000. You should preserve this report for further reference." In addition, former employees engaged in licensed activities can request a dose history for their time at SSC. The request must be satisfied within thirty (30) days.

9.0 MEDICAL SURVEIILANCE

Employees receiving routine exposure to ionizing radiation in doses above 0.5 rem/year or 0.125 rem/quarter are required to receive an annual physical. A situational examination is required for accidental exposures to potentially high doses of radiation or if a biological uptake (inhalation or ingestion) of a significant amount of RAM is suspected. The examination will be performed at SSC's Medical Clinic. In the event of an emergency, SSC Fire Department personnel will respond to detect the level of contamination using radiation detecting instruments.

10.0 ACRONYMS

ALARA	As Low as Reasonably Achievable
ANSI	American National Standards Institute
ARSO	Area Radiation Safety Officers
ASNT	American Society for Nondestructive Testing
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
HP	Health Physicist
HPPM	Health Physics Program Manager
IATA	International Air Transport Association
MeV	Mega-electron Volts

mRem	Millirem
NASA	National Aeronautics and Space Administration
NDE	Non-Destructive Evaluation
NIST	National Institute of Standards and Technology
NPR	NASA Procedural Requirement
NRC	Nuclear Regulatory Commission
NUREG	Nuclear Regulatory
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety Health Administration
RAM	Radioactive Material
RGE	Radiation-Generating Equipment
SCWI	Stennis Common Work Instruction
SOC	Stennis Operating Contract
SSC	Stennis Space Center

11.0 RECORDS

The following documents shall be maintained by ARSOs in accordance with applicable licenses and permits and made available to the SOC HP and NASA HPPM upon request:

a. Annual Occupational Radiation Worker Training
b. Contamination and Radiation Surveys
c. Sealed Source Leak Tests
d Instrument Calibrations
e. Licensed Source Inventory
f. Radiation Dosimetry Reports
g. RAM Receipts
h. Radioactive Waste Disposals
i. License or Permit
j. Unusual Incident Reports
k. Users Radiological Training & Experience Files
l. Written Examinations